The following Listing of the Claims will replace all prior versions and all prior listings of the claims in the present application:

Listing of The Claims:

1.   (Cancelled)

2.   (Cancelled)

3.   (Amended) ~~An biomarker~~ One or more isolated biomarkers selected from the group consisting ~~essentially~~ of the nucleic acids identified in Figures 1, 3, 5, 6a and 7a.

4.   (Cancelled)

5.   (Cancelled)

6.   (Amended) ~~An biomarker~~ One or more isolated biomarkers selected from the group consisting ~~essentially~~ of the nucleic acids identified in Figure 6b.

7.   (Cancelled)

8.   (Cancelled)

9.   (Amended) ~~An biomarker~~ One or more isolated biomarkers selected from the group consisting ~~essentially~~ of the nucleic acids identified in Figure 6c.

10.   (Cancelled)

11.   (Cancelled)

12.   (Amended) ~~An biomarker~~ One or more isolated biomarkers selected from the group consisting ~~essentially~~ of the nucleic acids identified in Figures 2, 4, 5, 6d and 7b.

13.   (Cancelled)

14.   (Cancelled)

15.   (Cancelled)

16.   (Cancelled)

17.   (Cancelled)

18.   (Cancelled)

19.   (Cancelled)

20.   (Cancelled)

21.   (Cancelled)

22.   (Cancelled)

23.   (Cancelled)

24.   (Cancelled)

25.   (Cancelled)

26.   (Cancelled)

27.   (Cancelled)

28.   (Cancelled)

29.   (Amended) A method for monitoring efficacy of a drug for treatment of mild osteoarthritis in a patient who has been diagnosed with mild osteoarthritis according to claim 38, comprising the steps of:

(a) obtaining a sample from a patient before treatment and a second sample from said patient after said treatment;

(b) detecting the level of expression of the <u>biomarkers TNFAIP6 and TGFB1</u> ~~biomarker of claim 2~~ in said first sample and said second sample; and

(c) determining a difference in said level of expression of said biomarker in said first sample as compared with said second sample, wherein said difference is indicative of the efficacy of said drug for said treatment of mild osteoarthritis in said patient.

30. (Amended) A method for monitoring the efficacy of a drug for treatment of moderate osteoarthritis in a patient <u>who has been diagnosed with moderate osteoarthritis according to claim 46,</u> comprising the steps of:

(a) obtaining a sample from a patient before treatment and a second sample from said patient after said treatment;

(b) detecting the level of expression of the <u>biomarkers TNFAIP6 and TGFB1</u> ~~biomarker of claim 5~~ in said first sample and said second sample; and

(c) determining a difference in said level of expression of said biomarker in said first sample as compared with said second sample, wherein said difference is indicative of the efficacy of said drug for said treatment of moderate osteoarthritis in said patient.

31. (Amended) A method for monitoring efficacy of a drug for treatment of marked osteoarthritis in a patient <u>who has been diagnosed with marked osteoarthritis according to claim 50,</u> comprising the steps of:

(a) obtaining a sample from a patient before treatment and a second sample from said patient after said treatment;

(b) detecting the level of expression of the <u>biomarkers TNFAIP6 and TGFB1</u> ~~biomarker of claim 8~~ in said first sample and said second sample; and

determining a difference in said level of expression of said biomarker in said first sample as compared with said second sample, wherein said difference is indicative of the efficacy of said drug for said treatment of marked osteoarthritis in said patient.

32.   (Amended) A method for monitoring efficacy of a drug for treatment of severe osteoarthritis in a patient who has been diagnosed with severe osteoarthritis according to claim 42, comprising the steps of:

(a) obtaining a sample from a patient before treatment and a second sample from said patient after said treatment;

(b) detecting the level of expression of the biomarkers TNFAIP6 and TGFB1 biomarker of claim 11 in said first sample and said second sample; and

(c) determining a difference in said level of expression of said biomarker in said first sample as compared with said second sample, wherein said difference is indicative of the efficacy of said drug for said treatment of severe osteoarthritis in said patient.

33.   (Amended) A method of identifying a therapeutic agent for the treatment of osteoarthritis, said method comprising:

a) providing a sample from a patient diagnosed with osteoarthritis;

b) measuring the level of expression of the biomarkers TNFAIP6 and TGFB1 a biomarker as set out in Figures 1—7 in the presence and the absence of said therapeutic agent; and

c) comparing said level of expression measured in the presence of said therapeutic agent to said level of expression measured in the absence of said therapeutic agent, wherein a decrease in the differential expression of said biomarker is indicative of a therapeutic agent for the treatment of osteoarthritis.

34.   (Amended) The methods of any one of claims 30-33, 37-52 and 54-57 13,17,21,25,29,30,31,32 or 33, wherein said sample is human cartilage.

35.   (Amended)   The methods of <u>any one of</u> claims <u>30-33, 37-52 and 54-57</u> ~~13,17,21,25,29,30,31,32 or 33,~~   wherein said biomarker is immobilized to a microarray.

36.   (Amended)   The methods of <u>any one of</u> claims <u>30-33, 37-52 and 54-57</u> ~~13,17,21,25,29,30,31,32 or 33,~~   wherein said level of expression of said biomarker is determined by hybridization to a microarray or real time RT-PCR.

37.   (New)   A method of diagnosing mild osteoarthritis in an individual, comprising:

(a) determining the level of expression of RNA corresponding to biomarkers TNFAIP6 and TGFB1 in a sample of said individual;

(b) comparing the level of expression of said RNA in said sample with the level of expression of RNA corresponding to said biomarkers in one or more control samples wherein said control samples are from individuals who have been diagnosed as having either moderate osteoarthritis, marked osteoarthritis or severe osteoarthritis;

whereby a difference in said level of expression of said RNA is indicative or predictive of mild osteoarthritis.

38.   (New)   A method of diagnosing mild osteoarthritis in an individual, comprising:
(a) determining the level of expression of RNA corresponding to one or more biomarkers in a sample of said individual;

(b) comparing the level of expression of said RNA in said sample with the level of expression of RNA corresponding to said biomarkers in one or more control samples wherein said control samples are from individuals who have been diagnosed as having either moderate osteoarthritis, marked osteoarthritis or severe osteoarthritis using the Marshall scoring system;

whereby a difference in said level of expression of said RNA is indicative or predictive of mild osteoarthritis.

39.   (New) The method of claim 38, wherein said one or more biomarkers are selected from the group identified in Figures 1-7.

40.   (New) The method of claim 38, wherein said one or more biomarkers are <u>biomarkers TNFAIP6 and TGFB1</u> ~~selected from the group identified in Figures 1, 3, 5, 6a or 7a~~.

41.   (New) A method of diagnosing severe osteoarthritis in an individual, comprising:

(a) determining the level of expression of RNA corresponding to biomarkers TNFAIP6 and TGFB1in a sample of said individual;

(b) comparing the level of expression of said RNA in said sample with the level of expression of RNA corresponding to said biomarkers in one or more control samples wherein said control samples are from individuals who have been diagnosed as having either moderate osteoarthritis, marked osteoarthritis or mild osteoarthritis;

 whereby a difference in said level of expression of said RNA is indicative or predictive of severe osteoarthritis.

42.   (New) A method of diagnosing severe osteoarthritis in an individual, comprising

(a) determining the level of expression of RNA corresponding to one or more biomarkers in a sample of said individual;

(b) comparing the level of expression of said RNA in said sample with the level of expression of RNA corresponding to said biomarkers in one or more control samples wherein said control samples are from individuals who have been diagnosed as having either mild osteoarthritis, marked osteoarthritis or moderate osteoarthritis using the Marshall scoring system whereby a difference in said level of expression of said RNA is indicative or predictive of severe osteoarthritis.

43.   (New) The method of claim 42, wherein said one or more biomarkers are selected from the group identified in Figures 1-7.

44.   (New) The method of claim 42, wherein said one or more biomarkers are <u>biomarkers</u> <u>TNFAIP6 and TGFB1</u> selected from the group identified in Figures 2, 4, 5, 6d, 7b.

45.   (New) A method of diagnosing moderate osteoarthritis in an individual, comprising:

(a) determining the level of expression of RNA corresponding to biomarkers TNFAIP6 and TGFB1in a sample of said individual;

(b) comparing the level of expression of said RNA in said sample with the level of expression of RNA corresponding to said biomarkers in one or more control samples wherein said control samples are from individuals who have been diagnosed as having either severe osteoarthritis, marked osteoarthritis or mild osteoarthritis;

 whereby a difference in said level of expression of said RNA is indicative or predictive of moderate osteoarthritis.

46.   (New) A method of diagnosing moderate osteoarthritis in an individual, comprising

(a) determining the level of expression of RNA corresponding to one or more biomarkers in a sample of said individual;

(b) comparing the level of expression of said RNA in said sample with the level of expression of RNA corresponding to said biomarkers in one or more control samples wherein said control samples are from individuals who have been diagnosed as having mild osteoarthritis, marked osteoarthritis or severe osteoarthritis using the Marshall scoring system; whereby a difference in said level of expression of said RNA is indicative or predictive of moderate osteoarthritis.

47.   (New) The method of claim 46, wherein said one or more biomarkers are selected from the group Figures 1-7.

48.   (New) The method of claim 46, wherein said one or more biomarkers are <u>biomarkers</u> <u>TNFAIP6 and TGFB1</u> selected from Figure 6b.

 49. (New) A method of diagnosing marked osteoarthritis in an individual, comprising:

(a) determining the level of expression of RNA corresponding to biomarkers TNFAIP6 and TGFB1in a sample of said individual;

(b) comparing the level of expression of said RNA in said sample with the level of expression of RNA corresponding to said biomarkers in one or more control samples wherein said control samples are from individuals who have been diagnosed as having either severe osteoarthritis, moderate osteoarthritis or mild osteoarthritis;

whereby a difference in said level of expression of said RNA is indicative or predictive of marked osteoarthritis.

50.   (New) A method of diagnosing marked osteoarthritis in an individual, comprising (a) determining the level of expression of RNA corresponding to one or more biomarkers in a sample from said individual;

(b) comparing the level of expression of said RNA in said sample with the level of expression of RNA corresponding to said biomarkers in a control sample wherein said control sample is from one or more individuals who have been diagnosed as having either mild osteoarthritis, moderate osteoarthritis or severe osteoarthritis using the Marshall scoring system; whereby a difference in said level of expression of said RNA is indicative or predictive of marked osteoarthritis.

51.   (New) The method of claim 50, wherein said one or more biomarkers are selected from those identified in Figures 1-7.

52.   (New) The method of claim 50, wherein said one or more biomarkers are <u>biomarkers TNFAIP6 and TGFB1</u> ~~selected from those identified in Figures 6e~~.

53.   (New) A method for monitoring efficacy of a drug for treatment of mild osteoarthritis in a patient who has been diagnosed with mild osteoarthritis according to claim 37, comprising the steps of:

(d) obtaining a sample from a patient before treatment and a second sample from said patient after said treatment;

(e) detecting the level of expression of said biomarkers in said first sample and said second sample; and

(f) determining a difference in said level of expression of said biomarkers in said first sample as compared with said second sample, wherein said difference is indicative of the efficacy of said drug for said treatment of mild osteoarthritis in said patient.

54.   (New) A method for monitoring the efficacy of a drug for treatment of moderate osteoarthritis in a patient who has been diagnosed with moderate osteoarthritis according to claim 45, comprising the steps of:

(d) obtaining a sample from a patient before treatment and a second sample from said patient after said treatment;

(e) detecting the level of expression of said biomarkers in said first sample and said second sample; and

(f) determining a difference in said level of expression of said biomarkers in said first sample as compared with said second sample, wherein said difference is indicative of the efficacy of said drug for said treatment of moderate osteoarthritis in said patient.

55.   (New) A method for monitoring the efficacy of a drug for treatment of marked osteoarthritis in a patient who has been diagnosed with marked osteoarthritis according to claim 49, comprising the steps of:

(c) obtaining a sample from a patient before treatment and a second sample from said patient after said treatment;

(d) detecting the level of expression of said biomarkers in said first sample and said second sample; and

determining a difference in said level of expression of said biomarkers in said first sample as compared with said second sample, wherein said difference is indicative of the efficacy of said drug for said treatment of marked osteoarthritis in said patient.

56.   (New) A method for monitoring efficacy of a drug for treatment of severe osteoarthritis in a patient who has been diagnosed with severe osteoarthritis according to claim 41, comprising the steps of:

(d) obtaining a sample from a patient before treatment and a second sample from said patient after said treatment;

(e) detecting the level of expression of said biomarkers in said first sample and said second sample; and

(f) determining a difference in said level of expression of said biomarkers in said first sample as compared with said second sample, wherein said difference is indicative of the efficacy of said drug for said treatment of severe osteoarthritis in said patient.

57.   (New) An isolated combination of biomarkers consisting essentially of the biomarkers TNFAIP6 and TGFB1.

58.   (New) An isolated combination of biomarkers consisting of the biomarkers TNFAIP6 and TGFB1.

59.   (New) A composition consisting essentially of the biomarkers TNFAIP6 and TGFB1 and a carrier.

60.   (New) A composition comprising the biomarkers TNFAIP6 and TGFB1 and a carrier.

61.   (New) A composition consisting of the biomarkers TNFAIP6 and TGFB1 and a carrier.